

Amendments to the Claims:

Please amend claims 17, 23, 25, 31, 36, 37, 50, 52, 58 and 61 and cancel claims 43-49. This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-16. (Canceled)

17. (Currently Amended) An antibody that specifically binds CD22, said anti-CD22 antibody having a variable light (VL) chain comprising three complementarity determining regions (CDRs), and a variable heavy (VH) chain comprising three CDRs, wherein

(i) said VL chain CDR1 has ~~a sequence selected from the group consisting of SEQ ID NOs:7, 8, 9, and 10~~ the sequence of SEQ ID NO:7, wherein positions 4-5 of SEQ ID NO:7 have an amino acid sequence selected from the group consisting of HG, GR, RG and AR,

(ii) said VL CDR2 has the sequence of SEQ ID NO:11,

(iii) said VL CDR3 has the sequence of SEQ ID NO:12,

(iv) said VH CDR1 has the sequence of SEQ ID NO:13,

(v) said VH CDR2 has the sequence of SEQ ID NO:14, and

(vi) said VH CDR3 has ~~a sequence selected from the group consisting of SEQ ID NOs:15, 16, 17, 18, and 19~~ the sequence of SEQ ID NO:16, wherein positions 8-10 of SEQ ID NO:16 have an amino acid sequence selected from the group consisting of THW, YNW, TTW and STY.

18. (Original) An anti-CD22 antibody of claim 17, wherein said VL CDR1 has the sequence of SEQ ID NO:7.

19. (Original) An anti-CD22 antibody of claim 17, wherein said VH CDR3 has the sequence of SEQ ID NO:16.

20. (Original) An anti-CD22 antibody of claim 17, wherein said VL chain has the sequence of SEQ ID NO:20.

21. (Original) An anti-CD22 antibody of claim 17, further wherein said VL CDR1 has the sequence of SEQ ID NO:7 and said VH CDR3 has the sequence of SEQ ID NO:16.

22. (Previously presented) An anti-CD22 antibody of claim 17, wherein said VH chain has the sequence of SEQ ID NO:21.

23. (Currently Amended) An anti-CD22 antibody of claim 17, wherein said VL chain has the sequence of SEQ ID NO:20 and said VH chain has the sequence of SEQ ID NO:21, except that, optionally, said VL chain has a cysteine in place of glycine at position 100 and said VH chain has a cysteine in place of arginine at position 44, as these positions are numbered according to the "Kabat Numbering" shown in Figures 2 and 3, respectively.

24. (Original) An anti-CD22 antibody of claim 17, wherein said antibody is selected from the group consisting of an scFv, a dsFv, a Fab, or a F(ab')₂.

25. (Currently Amended) A chimeric molecule comprising a therapeutic moiety or detectable label conjugated or fused to an antibody that specifically binds CD22, said anti-CD22 antibody having a variable light (VL) chain comprising three complementarity determining regions (CDRs), and a variable heavy (VH) chain comprising three CDRs, wherein

(i) ~~said VL chain CDR1 has a sequence selected from the group consisting of SEQ ID NOs:7, 8, 9, and 10~~ the sequence of SEQ ID NO:7, wherein positions 4-5 of SEQ ID NO:7 have an amino acid sequence selected from the group consisting of HG, GR, RG and AR,

(ii) said VL CDR2 has the sequence of SEQ ID NO:11,

(iii) said VL CDR3 has the sequence of SEQ ID NO:12,

(iv) said VH CDR1 has the sequence of SEQ ID NO:13,

(v) said VH CDR2 has the sequence of SEQ ID NO:14, and

(vi) said VH CDR3 has ~~a sequence selected from the group consisting of SEQ ID NOs:15, 16, 17, 18, and 19~~ the sequence of SEQ ID NO:16, wherein positions 8-10 of SEQ ID NO:16 have an amino acid sequence selected from the group consisting of THW, YNW, TTW and STY.

26. (Original) A chimeric molecule of claim 25, wherein said VL CDR1 has the sequence of SEQ ID NO:7.

27. (Original) A chimeric molecule of claim 25, wherein said VH CDR3 has the sequence of SEQ ID NO:16.

28. (Original) A chimeric molecule of claim 25, wherein said VL chain has the sequence of SEQ ID NO:20.

29. (Original) A chimeric molecule of claim 25, further wherein said VL CDR1 has the sequence of SEQ ID NO:7 and said VH CDR3 has the sequence of SEQ ID NO:16.

30. (Original) A chimeric molecule of claim 25, wherein said VH chain has the sequence of SEQ ID NO:21.

31. (Currently Amended) A chimeric molecule of claim 25, wherein said VL chain has the sequence of SEQ ID NO:20 and said VH chain has the sequence of SEQ ID NO:21, except that, optionally, said VL chain has a cysteine in place of glycine at position 100 and said VH chain has a cysteine in place of arginine at position 44, as these positions are numbered according to the "Kabat Numbering" ~~shown in Figures 2 and 3, respectively.~~

32. (Original) A chimeric molecule of claim 25, wherein said antibody is selected from the group consisting of an scFv, a dsFv, a Fab, or a F(ab')₂.

33. (Original) A chimeric molecule of claim 25, wherein the therapeutic moiety is selected from the group consisting of a cytotoxin, a drug, a radioisotope, or a liposome loaded with a drug or a cytotoxin.

34. (Original) A chimeric molecule of claim 33, wherein the therapeutic moiety is a cytotoxin selected from the group consisting of ricin A, abrin, ribotoxin, ribonuclease, saporin, calicheamycin, a mutated diphtheria toxin, a mutated *Pseudomonas* exotoxin A ("PE"), and botulinum toxins A through F.

35. (Original) A chimeric molecule of claim 34, wherein said mutated PE is selected from the group consisting of PE35, PE38, PE38KDEL, PE40, PE4E, and PE38QQR, optionally in which said mutated PE has a glycine, alanine, valine, leucine, or isoleucine residue rather than an arginine residue at a position corresponding to position 490 of SEQ ID NO:24.

36. (Currently Amended) A chimeric molecule of claim ~~[[25]]~~ 35, wherein ~~said arginine residue at a position corresponding to position 490 of SEQ ID NO:24 is replaced by alanine~~ said mutated PE has an alanine residue rather than an arginine residue at a position corresponding to position 490 of SEQ ID NO:24.

37. (Currently Amended) A composition comprising (a) a pharmaceutically acceptable carrier and (b) a chimeric molecule comprising an antibody conjugated or fused to a therapeutic moiety or a detectable label, wherein said antibody specifically binds CD22, said anti-CD22 antibody has a variable light (VL) chain comprising three complementarity determining regions (CDRs), and a variable heavy (VH) chain comprising three CDRs, further wherein

(i) ~~said VL chain CDR1 has a sequence selected from the group consisting of SEQ ID NOs:7, 8, 9, and 10~~ the sequence of SEQ ID NO:7, wherein positions 4-5 of SEQ ID NO:7 have an amino acid sequence selected from the group consisting of HG, GR, RG and AR,

(ii) said VL CDR2 has the sequence of SEQ ID NO:11,

(iii) said VL CDR3 has the sequence of SEQ ID NO:12,

(iv) said VH CDR1 has the sequence of SEQ ID NO:13,
(v) said VH CDR2 has the sequence of SEQ ID NO:14, and
(vi) said VH CDR3 has ~~a sequence selected from the group consisting of SEQ ID NOs:15, 16, 17, 18, and 19~~ the sequence of SEQ ID NO:16, wherein positions 8-10 of SEQ ID NO:16 have an amino acid sequence selected from the group consisting of THW, YNW, TTW and STY.

38. (Original) A composition of claim 37, wherein said VL CDR1 has the sequence of SEQ ID NO:7 and said VH CDR3 has the sequence of SEQ ID NO:16.

39. (Original) A composition of claim 37, wherein the therapeutic moiety is selected from the group consisting of a cytotoxin, a drug, a radioisotope, or a liposome loaded with a drug or a cytotoxin.

40. (Original) A composition of claim 37, wherein the therapeutic moiety is a cytotoxin selected from the group consisting of ricin A, abrin, ribotoxin, ribonuclease, saporin, calicheamycin, diphtheria toxin or a cytotoxic subunit or mutant thereof, a mutated *Pseudomonas* exotoxin A ("PE"), and botulinum toxins A through F.

41. (Original) A composition of claim 40, wherein said PE is selected from the group consisting of PE35, PE38, PE38KDEL, PE40, PE4E, and PE38QQR, and optionally, said mutated PE has a glycine, alanine, valine, leucine, or isoleucine residue rather than an arginine residue at a position corresponding to position 490 of SEQ ID NO:24.

42. (Original) A composition of claim 41, wherein said arginine residue at a position corresponding to position 490 of SEQ ID NO:24 is replaced by alanine.

43-49. (Canceled)

50. (Currently Amended) A method of inhibiting growth of a CD22+ cancer cell by contacting said cell with a chimeric molecule comprising

(a) an antibody that binds to CD22, said anti-CD22 antibody has a variable light (VL) chain comprising three complementarity determining regions (CDRs), and a variable heavy (VH) chain comprising three CDRs, further wherein

(i) said VL chain CDR1 has ~~a sequence selected from the group consisting of SEQ ID NOs:7, 8, 9, and 10~~ the sequence of SEQ ID NO:7, wherein positions 4-5 of SEQ ID NO:7 have an amino acid sequence selected from the group consisting of HG, GR, RG and AR,

(ii) said VL CDR2 has the sequence of SEQ ID NO:11,

(iii) said VL CDR3 has the sequence of SEQ ID NO:12,

(iv) said VH CDR1 has the sequence of SEQ ID NO:13,

(v) said VH CDR2 has the sequence of SEQ ID NO:14, and

(vi) said VH CDR3 has ~~a sequence selected from the group consisting of SEQ ID NOs:15, 16, 17, 18, and 19~~ the sequence of SEQ ID NO:16, wherein positions 8-10 of SEQ ID NO:16 have an amino acid sequence selected from the group consisting of THW, YNW, TTW and STY, and,

(b) a therapeutic moiety,

wherein, following said contacting, said therapeutic moiety inhibits growth of said cell.

51. (Original) A method of claim 50, further wherein said VL CDR1 has the sequence of SEQ ID NO:7 and said VH CDR3 has the sequence of SEQ ID NO:16.

52. (Currently Amended) A method of claim 50, wherein said VL chain has the sequence of SEQ ID NO:20 and said VH chain has the sequence of SEQ ID NO:21, except that, optionally, said VL chain has a cysteine in place of glycine at position 100 and said VH chain has a cysteine in place of arginine at position 44, as these positions are numbered according to the "Kabat Numbering" ~~shown in Figures 2 and 3, respectively.~~

53. (Original) A method of claim 50, wherein said antibody is selected from the group consisting of an scFv, a dsFv, a Fab, or a F(ab')₂.

54. (Original) A method of claim 50, wherein said therapeutic moiety is selected from the group consisting of a cytotoxin, a drug, a radioisotope, or a liposome loaded with a drug or a cytotoxin.

55. (Original) A method of claim 54, wherein the therapeutic moiety is a cytotoxin selected from the group consisting of ricin A, abrin, ribotoxin, ribonuclease, saporin, calicheamycin, a mutated diphtheria toxin, a mutated *Pseudomonas* exotoxin A ("PE"), and botulinum toxins A through F.

56. (Original) A method of claim 55, wherein said PE is selected from the group consisting of PE35, PE38, PE38KDEL, PE40, PE4E, and PE38QQR and, optionally, has a glycine, alanine, valine, leucine, or isoleucine residue in place of an arginine residue at a position corresponding to position 490 of SEQ ID NO:24.

57. (Original) A method of claim 56, wherein said arginine residue at a position corresponding to position 490 of SEQ ID NO:24 is replaced by alanine.

58. (Withdrawn – Currently Amended) A method for detecting the presence of a CD22⁺ cancer cell in a biological sample, said method comprising:

(a) contacting cells of said biological sample with an antibody that specifically binds to CD22, said anti-CD22 antibody has a variable light (VL) chain comprising three complementarity determining regions (CDRs), and a variable heavy (VH) chain comprising three CDRs, further wherein

(i) said VL chain CDR1 has ~~a sequence selected from the group consisting of SEQ ID NOs:7, 8, 9, and 10~~ the sequence of SEQ ID NO:7, wherein positions 4-5 of SEQ ID NO:7 have an amino acid sequence selected from the group consisting of HG, GR, RG and AR,

(ii) said VL CDR2 has the sequence of SEQ ID NO:11,

(iii) said VL CDR3 has the sequence of SEQ ID NO:12,
(iv) said VH CDR1 has the sequence of SEQ ID NO:13,
(v) said VH CDR2 has the sequence of SEQ ID NO:14, and
(vi) said VH CDR3 has ~~a sequence selected from the group consisting of~~
SEQ ID NOs:15, 16, 17, 18, and 19 the sequence of SEQ ID NO:16, wherein positions 8-
10 of SEQ ID NO:16 have an amino acid sequence selected from the group consisting of
THW, YNW, TTW and STY,

- (b) washing said cells to remove unbound antibody, and
- (c) detecting the presence or absence of bound antibody,

wherein detecting the presence of said antibody indicates the presence of a CD22+ cancer cell in said sample.

59. (Withdrawn) A method of claim 58, further wherein said VL CDR1 has the sequence of SEQ ID NO:7 and said VH CDR3 has the sequence of SEQ ID NO:16.

60. (Withdrawn) A method of claim 58, further whether said antibody is attached to a detectable label.

61. (Currently Amended) A kit for detecting the presence of a CD22+ cancer cell in a biological sample, said kit comprising:

- (a) a container, and
- (b) an antibody that binds to CD22, said anti-CD22 antibody has a variable light (VL) chain comprising three complementarity determining regions (CDRs), and a variable heavy (VH) chain comprising three CDRs, further wherein
 - (i) said VL chain CDR1 has ~~a sequence selected from the group consisting of~~
SEQ ID NOs:7, 8, 9, and 10 the sequence of SEQ ID NO:7, wherein positions 4-5 of SEQ ID
NO:7 have an amino acid sequence selected from the group consisting of HG, GR, RG and AR,
 - (ii) said VL CDR2 has the sequence of SEQ ID NO:11,
 - (iii) said VL CDR3 has the sequence of SEQ ID NO:12,
 - (iv) said VH CDR1 has the sequence of SEQ ID NO:13,

(v) said VH CDR2 has the sequence of SEQ ID NO:14, and

(vi) said VH CDR3 has ~~a sequence selected from the group consisting of SEQ ID NOs:15, 16, 17, 18, and 19~~ the sequence of SEQ ID NO:16, wherein positions 8-10 of SEQ ID NO:16 have an amino acid sequence selected from the group consisting of THW, YNW, TTW and STY.

62. (Original) A kit of claim 61, further wherein said VL CDR1 has the sequence of SEQ ID NO:7 and said VH CDR3 has the sequence of SEQ ID NO:16.

63. (Original) A kit of claim 61, further wherein said antibody is fused or conjugated to a detectable label.